



SFUND RECORDS CTR  
1110-00351

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SFUND RECORDS CTR

**88072800**

MEMORANDUM

TO: Nancy Riveland-Har  
Remedial Project Manager  
Cleanup Section 4, SFD-7-4

THROUGH: Rose Fong RF  
ESAT Project Officer  
Quality Assurance (QA) Office, PMD-3

FROM: Doug Lindelof   
Data Review and QA Document Review Task Manager  
Environmental Services Assistance Team (ESAT)

ESAT Contract No.: 68-W-01-028  
Task Order No.: B01  
Technical Direction No.: B0105086 Amendment 1

DATE: May 6, 2002

SUBJECT: Review of Analytical Data, Tier 3

Attached are comments resulting from ESAT Region 9 review of the following analytical data:

|                   |                                |
|-------------------|--------------------------------|
| SITE:             | Omega Chem OU-2                |
| SITE ACCOUNT NO.: | 09 BC LA02                     |
| CERCLIS ID NO.:   | CAD042245001                   |
| CASE NO.:         | 11-BCCO-15.0                   |
| SDG NO.:          | 01J260                         |
| LABORATORY:       | EMAX Laboratories, Inc. (EMAX) |
| ANALYSIS:         | Volatiles                      |
| SAMPLES:          | 8 Water Samples                |
| COLLECTION DATE:  | October 30, 2001               |
| REVIEWER:         | Denise McCaffrey, ESAT/LDC     |

The comments and qualifications presented in this report have been reviewed by the EPA Task Order Project Officer (TOPO) for the ESAT Contract, whose signature appears above.

If there are any questions, please contact Rose Fong (QA Program/EPA) at (415) 972-3812.

Attachment

cc: ESAT File

SAMPLING ISSUES: ☒ Yes ☐ No

## Data Validation Report

Case No.: 11-BCCO-15.0    SDG No.: 01J260  
Site: Omega Chem OU-2  
Laboratory: EMAX Laboratories, Inc.  
Reviewer: Denise McCaffrey, ESAT/LDC  
Date: May 6, 2002

### I. Case Summary

#### SAMPLE INFORMATION:

Samples: GW401-PP067-0046, GW401-PP068-0058,  
GW401-PP069-0060, GW401-PP069-1060,  
GW401-PP070-0093, GW401-PP071-0084,  
GW401-PP072-0088, and GW401-PP072-2003  
Concentration and Matrix: Low Level Water  
Analysis: Volatiles  
SOW: SW-846 Method 8260B  
Collection Date: October 30, 2001  
Sample Receipt Date: October 31, 2001  
Extraction Date: Not Applicable  
Analysis Date: October 31 and November 1, 2001

#### FIELD QC:

Trip Blanks (TB): GW401-PP072-2003  
Field Blanks (FB): Not Provided  
Equipment Blanks (EB): Not Provided  
Background Samples (BG): Not Provided  
Field Duplicates (D1): GW401-PP069-0060 and GW401-PP069-1060

#### METHOD BLANKS AND ASSOCIATED SAMPLES:

MBLK1W: GW401-PP067-0046, GW401-PP068-0058,  
GW401-PP069-0060, GW401-PP069-1060,  
GW401-PP070-0093, GW401-PP071-0084DL,  
GW401-PP072-0088DL, and GW401-PP072-2003  
MBLK2W: GW401-PP067-0046DL, GW401-PP069-0060DL,  
GW401-PP069-1060DL, GW401-PP071-0084,  
and GW401-PP072-0088

#### TABLES:

1A: Analytical Results with Qualifications  
1B: Data Qualifier Definitions for Organic Data Review

DL - Dilution

## SAMPLING ISSUES:

Detected results for chloroform are qualified as nondetected and estimated (U,J) due to contamination in trip blank GW401-PP072-2003.

Matrix spike/matrix spike duplicate (MS/MSD) analysis was not performed because no MS/MSD sample was designated in this sample delivery group (SDG).

## ADDITIONAL COMMENTS:

Dichlorofluoromethane was not analyzed. This compound is included in the REAP DQI Table.

The REAP DQI Table specified that four surrogate spikes (Toluene-d8, BFB, 1,2-dichloroethane-d4, and dibromofluoromethane) are required. Only three surrogate spikes (Toluene-d8, BFB, and 1,2-dichloroethane-d4) were used by the laboratory. The accuracy of the analytes were assessed based on the same grouping of surrogates and internal standards used by the laboratory.

Tentatively identified compounds (TICs) were not reported by the laboratory.

This report was prepared in accordance with the following documents:

- ESAT Region 9 Data Quality Indicator (DQI) Table for *Volatile Organic Compounds (VOCs)* by *SW-846 Method 8260*, Appendix B, Attachment 2, Section J, Contract No. 68-R9-00-11, Regional Environmental Analytical Procurement (REAP);
- EPA SW-846 Method 8260B, *Volatile Organic Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)*, Revision 2, December 1996;
- ESAT Region 9 Standard Operating Procedure 901, *Guidelines for Data Review of Contract Laboratory Program Analytical Services (CLPAS) Volatile and Semivolatile Data Packages*; and
- *USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review*, October 1999.

## II. Validation Summary

|                                     | Acceptable/Comment |         |
|-------------------------------------|--------------------|---------|
| HOLDING TIMES                       | YES                |         |
| GC/MS TUNE/GC PERFORMANCE           | YES                |         |
| INITIAL CALIBRATIONS                | YES                |         |
| CONTINUING CALIBRATIONS             | NO                 | C       |
| LABORATORY BLANKS                   | NO                 | B       |
| FIELD BLANKS                        | NO                 | B       |
| SURROGATES                          | NO                 | D       |
| LABORATORY CONTROL SAMPLE/DUPLICATE | YES                |         |
| MATRIX SPIKE/DUPLICATE              | N/A                |         |
| INTERNAL STANDARDS                  | YES                |         |
| COMPOUND IDENTIFICATION             | NO                 | G       |
| COMPOUND QUANTITATION               | YES                | A, E, F |
| SYSTEM PERFORMANCE                  | YES                |         |
| FIELD DUPLICATE SAMPLE ANALYSIS     | YES                |         |

N/A = Not Applicable

### III. Validity and Comments

- A. The following results, denoted with an “L” qualifier, are estimated and flagged “J” in Table 1A.

- All results below the contract required quantitation limits

*Results below the contract required quantitation limits (CRQLs) are considered to be qualitatively acceptable, but quantitatively unreliable, due to the uncertainty in analytical precision near the limit of detection.*

- B. The following results are qualified as nondetected and estimated due to method blank and trip blank contamination, and are flagged “U,J” in Table 1A.

- Chloroform in samples GW401-PP067-0046, GW401-PP068-0058, GW401-PP069-0060, GW401-PP069-1060, GW401-PP071-0084, and GW401-PP072-0088
- Toluene in samples GW401-PP067-0046, GW401-PP068-0058, GW401-PP069-0060, GW401-PP069-1060, GW401-PP071-0084, GW401-PP072-0088, and GW401-PP072-2003

Chloroform was found in trip blank GW401-PP072-2003 at a concentration of 0.67 µg/L. Toluene was found in method blanks MBLK1W and MBLK2W at concentrations of 0.36 µg/L and 0.33 µg/L, respectively. Results for the samples listed above are considered nondetected and estimated (U,J) and the quantitation limits have been increased according to the blank qualification rules presented below.

No positive results are reported unless the concentration of the compound in the sample exceeds 10 times the amount in any associated blank for the common laboratory contaminants or 5 times the amount for other compounds. If the sample result is greater than the CRQL, the quantitation limit is raised to the sample result (U,J). If the sample result is less than the CRQL, the result is reported as nondetected (U,J) at the CRQL.

*A laboratory method blank is laboratory reagent water analyzed with all reagents, surrogates, and internal standards and carried through the same sample preparation and analytical procedures as the field samples. The laboratory method blank is used to determine the level of contamination introduced by the laboratory during preparation and analysis.*

*A trip blank is laboratory reagent water which is shipped from the laboratory to the field with the empty sample containers and back to the laboratory with the filled sample containers. A trip blank is intended to detect contaminants introduced during the transport of the samples to the laboratory, although any laboratory introduced contamination will be present. Contaminants that are found in the trip blank which are absent in the laboratory blank could be indicative of a problem in transportation, storage, the bottle preparation procedure, or other indeterminate error.*

- C. Detected results and quantitation limits for the following analytes are qualified as estimated due to large percent differences (%Ds) in the continuing calibrations, and are flagged “J” in Table 1A.

- Acetone in samples GW401-PP067-0046, GW401-PP068-0058, GW401-PP069-0060, GW401-PP069-1060, GW401-PP070-0093, GW401-PP072-2003, and method blank MBLK1W
- Hexachlorobutadiene in all samples and method blanks

A %D of 37.3% (biased high) was observed for acetone in the continuing calibration performed on October 31, 2001. %Ds of 34.3% and 36.8% (biased low) were observed for hexachlorobutadiene in the continuing calibrations performed on October 31, 2001 and November 1, 2001, respectively. These values exceed the  $\pm 30.0\%$  validation criterion.

*The continuing calibration checks the instrument's performance daily.*

- D. Detected results and quantitation limits for the following analytes are qualified as estimated due to surrogate recovery outside QC limits, and are flagged "J" in Table 1A.

{1,2-Dichloroethane-d4}

- 1,1-Dichloroethane in samples GW401-PP068-0058, GW401-PP069-0060, and GW401-PP069-1060
- 1,1-Dichloroethene in samples GW401-PP067-0046, GW401-PP068-0058, and GW401-PP070-0093
- trans-1,2-Dichloroethene, vinyl chloride, and methyl t-butyl ether in samples GW401-PP069-0060 and GW401-PP069-1060
- Trichlorofluoromethane and freon 113 in samples GW401-PP068-0058, GW401-PP069-0060, GW401-PP069-1060, and GW401-PP072-0088
- Chloroform in sample GW401-PP072-2003

Surrogate recoveries exceeded the QC limits are shown below for the samples listed above.

| <u>Sample</u>      | <u>Surrogate</u>      | <u>% Recovery</u> | <u>QC Limits</u> |
|--------------------|-----------------------|-------------------|------------------|
| GW401-PP067-0046   | 1,2-Dichloroethane-d4 | 116               | 85-115           |
| GW401-PP068-0058   | 1,2-Dichloroethane-d4 | 118               | 85-115           |
| GW401-PP069-0060   | 1,2-Dichloroethane-d4 | 116               | 85-115           |
| GW401-PP069-1060   | 1,2-Dichloroethane-d4 | 119               | 85-115           |
| GW401-PP070-0093   | 1,2-Dichloroethane-d4 | 118               | 85-115           |
| GW401-PP072-0088DL | 1,2-Dichloroethane-d4 | 122               | 85-115           |
| GW401-PP072-2003   | 1,2-Dichloroethane-d4 | 117               | 85-115           |

Detected results for affected analytes may be biased high. The samples were not re-analyzed.

*Surrogates are organic compounds which are similar to the target analytes in chemical composition and behavior in the analytical process, but which are not normally found in environmental samples. All samples are spiked with surrogates prior to purging. Surrogates provide information about both the laboratory performance on individual samples and the possible effects of the sample matrix on the analytical results.*

- E. Samples GW401-PP067-0046, GW401-PP068-0058, GW401-PP069-0060, and GW401-PP069-1060 were analyzed at 5-fold dilutions due to the high level of target analytes. The CRQLs listed for these samples in Table 1A have been multiplied by the dilution factors.
- F. Sample GW401-PP071-0084 was analyzed at a 25-fold dilution due to the high level of freon 113. The result for freon 113 is reported from the diluted sample in Table 1A; results for all other analytes are reported from the undiluted sample.

Sample GW401-PP072-0088 was analyzed at a 25-fold dilution due to the high levels of trichlorofluoromethane, trichloroethene, tetrachloroethene, and freon 113. Results for trichlorofluoromethane, trichloroethene, tetrachloroethene, and freon 113 are reported from the diluted sample in Table 1A; results for all other analytes are reported from the undiluted sample.

Sample GW401-PP067-0046 was analyzed at a further dilution of 50-fold due to the high level of tetrachloroethene. The result for tetrachloroethene is reported from the 50-fold diluted sample in Table 1A; results for all other analytes are reported from the original analysis, performed at a 5-fold dilution.

Samples GW401-PP069-0060 and GW401-PP069-1060 were analyzed at further dilutions of 50-fold due to the high levels of 1,1-dichloroethene and cis-1,2-dichloroethene. Results for 1,1-dichloroethene and cis-1,2-dichloroethene are reported from the 50-fold diluted samples in Table 1A; results for all other analytes are reported from the original analyses, performed at a 5-fold dilutions.

- G. Acetone was detected in the sample GW401-PP072-0088 at a concentration of 26  $\mu\text{g/L}$ . However, the presence of acetone cannot be verified by the data reviewer because of the high concentration of freon 113 (240  $\mu\text{g/L}$ ) in the sample.

Tier 3 Table 1A

**Analysis Type :** Water Samples for Volatiles by

EPA Method 8260B

| Station Description :       |  |  |  |                  |     |     |                  |     |     |                     |     |     |                     |     |     |                  |     |     |                  |     |           |                  |  |  |
|-----------------------------|--|--|--|------------------|-----|-----|------------------|-----|-----|---------------------|-----|-----|---------------------|-----|-----|------------------|-----|-----|------------------|-----|-----------|------------------|--|--|
| Sample ID :                 |  |  |  | GW401-PP067-0046 |     |     | GW401-PP068-0058 |     |     | GW401-PP069-0060 D1 |     |     | GW401-PP069-1060 D1 |     |     | GW401-PP070-0093 |     |     | GW401-PP071-0084 |     |           | GW401-PP072-0088 |  |  |
| Collection Date :           |  |  |  | 10/30/01         |     |     | 10/30/01         |     |     | 10/30/01            |     |     | 10/30/01            |     |     | 10/30/01         |     |     | 10/30/01         |     |           | 10/30/01         |  |  |
| Dilution Factor :           |  |  |  | 5                |     |     | 5                |     |     | 5                   |     |     | 5                   |     |     | 1                |     |     | 1                |     |           | 1                |  |  |
| Volatile Compound           |  |  |  | Result           | Val | Com | Result           | Val | Com | Result              | Val | Com | Result              | Val | Com | Result           | Val | Com | Result           | Val | Com       |                  |  |  |
| 1,1-Dichloroethane          |  |  |  | 5U               |     | E   | 2.5L             | J   | ADE | 110                 | J   | DE  | 100                 | J   | DE  | 1U               |     |     | 1U               |     |           |                  |  |  |
| 1,1-Dichloroethene          |  |  |  | 12               | J   | DE  | 13               | J   | DE  | 380                 |     | EF  | 390                 |     | EF  | 1.8              | J   | D   | 5.4              |     | 7.2       |                  |  |  |
| 1,1-Dichloropropene         |  |  |  | 5U               |     | E   | 5U               |     | E   | 5U                  |     | E   | 5U                  |     | E   | 1U               |     |     | 1U               |     |           |                  |  |  |
| 1,2,3-Trichloropropane      |  |  |  | 5U               |     | E   | 5U               |     | E   | 5U                  |     | E   | 5U                  |     | E   | 1U               |     |     | 1U               |     |           |                  |  |  |
| 1,2,4-Trimethylbenzene      |  |  |  | 5U               |     | E   | 5U               |     | E   | 5U                  |     | E   | 5U                  |     | E   | 1U               |     |     | 1U               |     |           |                  |  |  |
| 1,2-Dibromo-3-chloropropane |  |  |  | 10U              |     | E   | 10U              |     | E   | 10U                 |     | E   | 10U                 |     | E   | 2U               |     |     | 2U               |     |           |                  |  |  |
| 1,2-Dichlorobenzene         |  |  |  | 5U               |     | E   | 5U               |     | E   | 5U                  |     | E   | 5U                  |     | E   | 1U               |     |     | 1U               |     |           |                  |  |  |
| 1,2-Dichloroethane          |  |  |  | 2.5U             |     | E   | 2.5U             |     | E   | 13                  |     | E   | 12                  |     | E   | 0.5U             |     |     | 0.5U             |     | 0.5U      |                  |  |  |
| 1,2-Dichloropropane         |  |  |  | 5U               |     | E   | 5U               |     | E   | 5U                  |     | E   | 5U                  |     | E   | 1U               |     |     | 1U               |     |           |                  |  |  |
| 1,2-Dibromoethane           |  |  |  | 5U               |     | E   | 5U               |     | E   | 5U                  |     | E   | 5U                  |     | E   | 1U               |     |     | 1U               |     |           |                  |  |  |
| 1,3,5-Trimethylbenzene      |  |  |  | 5U               |     | E   | 5U               |     | E   | 5U                  |     | E   | 5U                  |     | E   | 1U               |     |     | 1U               |     |           |                  |  |  |
| 1,3-Dichlorobenzene         |  |  |  | 5U               |     | E   | 5U               |     | E   | 5U                  |     | E   | 5U                  |     | E   | 1U               |     |     | 1U               |     |           |                  |  |  |
| 1,3-Dichloropropane         |  |  |  | 5U               |     | E   | 5U               |     | E   | 5U                  |     | E   | 5U                  |     | E   | 1U               |     |     | 1U               |     |           |                  |  |  |
| 1,4-Dichlorobenzene         |  |  |  | 5U               |     | E   | 5U               |     | E   | 5U                  |     | E   | 5U                  |     | E   | 1U               |     |     | 1U               |     |           |                  |  |  |
| 2,2-Dichloropropane         |  |  |  | 5U               |     | E   | 5U               |     | E   | 5U                  |     | E   | 5U                  |     | E   | 1U               |     |     | 1U               |     |           |                  |  |  |
| 2-Chlorotoluene             |  |  |  | 5U               |     | E   | 5U               |     | E   | 5U                  |     | E   | 5U                  |     | E   | 1U               |     |     | 1U               |     |           |                  |  |  |
| Benzene                     |  |  |  | 5U               |     | E   | 5U               |     | E   | 5U                  |     | E   | 5U                  |     | E   | 1U               |     |     | 1U               |     |           |                  |  |  |
| Bromobenzene                |  |  |  | 5U               |     | E   | 5U               |     | E   | 5U                  |     | E   | 5U                  |     | E   | 1U               |     |     | 1U               |     |           |                  |  |  |
| Bromochloromethane          |  |  |  | 5U               |     | E   | 5U               |     | E   | 5U                  |     | E   | 5U                  |     | E   | 1U               |     |     | 1U               |     |           |                  |  |  |
| Bromodichloromethane        |  |  |  | 5U               |     | E   | 5U               |     | E   | 5U                  |     | E   | 5U                  |     | E   | 1U               |     |     | 1U               |     |           |                  |  |  |
| Bromoform                   |  |  |  | 5U               |     | E   | 5U               |     | E   | 5U                  |     | E   | 5U                  |     | E   | 1U               |     |     | 1U               |     |           |                  |  |  |
| Bromomethane                |  |  |  | 5U               |     | E   | 5U               |     | E   | 5U                  |     | E   | 5U                  |     | E   | 1U               |     |     | 1U               |     |           |                  |  |  |
| Carbon Tetrachloride        |  |  |  | 2.5U             |     | E   | 2.5U             |     | E   | 2.5U                |     | E   | 2.5U                |     | E   | 0.5U             |     |     | 0.5U             |     | 0.5U      |                  |  |  |
| Chlorobenzene               |  |  |  | 5U               |     | E   | 5U               |     | E   | 5U                  |     | E   | 5U                  |     | E   | 1U               |     |     | 1U               |     |           |                  |  |  |
| Chloroethane                |  |  |  | 5U               |     | E   | 5U               |     | E   | 5U                  |     | E   | 5U                  |     | E   | 1U               |     |     | 1U               |     |           |                  |  |  |
| Chloroform                  |  |  |  | 5U               | J   | BE  | 5U               | J   | BE  | 5U                  | J   | BE  | 5U                  | J   | BE  | 1U               |     |     | 1U               | J   | B         |                  |  |  |
| Chloromethane               |  |  |  | 5U               |     | E   | 5U               |     | E   | 5U                  |     | E   | 5U                  |     | E   | 1U               |     |     | 1U               |     |           |                  |  |  |
| cis-1,2-Dichloroethene      |  |  |  | 5U               |     | E   | 5U               |     | E   | 340                 |     | EF  | 350                 |     | EF  | 1U               |     |     | 1U               |     | 0.54L J A |                  |  |  |
| Dibromomethane              |  |  |  | 5U               |     | E   | 5U               |     | E   | 5U                  |     | E   | 5U                  |     | E   | 1U               |     |     | 1U               |     |           |                  |  |  |
| Dichlorodifluoromethane     |  |  |  | 5U               |     | E   | 5U               |     | E   | 5U                  |     | E   | 5U                  |     | E   | 1U               |     |     | 1U               |     |           |                  |  |  |
| m/p-Xylenes                 |  |  |  | 5U               |     | E   | 5U               |     | E   | 5U                  |     | E   | 5U                  |     | E   | 1U               |     |     | 1U               |     |           |                  |  |  |
| n-Butylbenzene              |  |  |  | 5U               |     | E   | 5U               |     | E   | 5U                  |     | E   | 5U                  |     | E   | 1U               |     |     | 1U               |     |           |                  |  |  |
| o-Xylene                    |  |  |  | 5U               |     | E   | 5U               |     | E   | 5U                  |     | E   | 5U                  |     | E   | 1U               |     |     | 1U               |     |           |                  |  |  |
| sec-Butylbenzene            |  |  |  | 5U               |     | E   | 5U               |     | E   | 5U                  |     | E   | 5U                  |     | E   | 1U               |     |     | 1U               |     |           |                  |  |  |
| tert-Butylbenzene           |  |  |  | 5U               |     | E   | 5U               |     | E   | 5U                  |     | E   | 5U                  |     | E   | 1U               |     |     | 1U               |     |           |                  |  |  |
| trans-1,2-Dichloroethene    |  |  |  | 5U               |     | E   | 5U               |     | E   | 1.9L                | J   | ADE | 1.7L                | J   | ADE | 1U               |     |     | 1U               |     |           |                  |  |  |

## ANALYTICAL RESULTS

Case No. : 11-BCCO-15.0

SDG No. : 01J260

## Tier 2 Table 1A

Site : Omega Chem OU-2

Lab : EMAX

Reviewer : Denise McCaffrey, ESAT/LDC

Date : May 6, 2002

## QUALIFIED DATA

Analysis Type : Water Samples for Volatiles by

Concentration in ug/L

EPA Method 8260B

| Station Description :     |        |     |     | Sample ID :      |     |     |        | Collection Date :   |     |        |     | Dilution Factor :   |        |     |     |
|---------------------------|--------|-----|-----|------------------|-----|-----|--------|---------------------|-----|--------|-----|---------------------|--------|-----|-----|
| GW401-PP067-0046          |        |     |     | GW401-PP068-0058 |     |     |        | GW401-PP069-0060 D1 |     |        |     | GW401-PP069-1060 D1 |        |     |     |
| 10/30/01                  |        |     |     | 10/30/01         |     |     |        | 10/30/01            |     |        |     | 10/30/01            |        |     |     |
| 5                         |        |     |     | 5                |     |     |        | 5                   |     |        |     | 1                   |        |     |     |
| Volatile Compound         | Result | Val | Com | Result           | Val | Com | Result | Val                 | Com | Result | Val | Com                 | Result | Val | Com |
| Trichlorofluoromethane    | 5U     |     | E   | 3.1L             | J   | ADE | 11     | J                   | DE  | 10     | J   | DE                  | 1U     |     |     |
| Vinyl Chloride            | 10U    |     | E   | 10U              |     | E   | 5.2L   | J                   | ADE | 5.1L   | J   | ADE                 | 2U     |     |     |
| Acetone                   | 50U    | J   | CE  | 50U              | J   | CE  | 50U    | J                   | CE  | 50U    | J   | CE                  | 10U    | J   | C   |
| 2-Butanone                | 50U    |     | E   | 50U              |     | E   | 50U    |                     | E   | 50U    |     | E                   | 10U    |     |     |
| Carbon Disulfide          | 5U     |     | E   | 5U               |     | E   | 5U     |                     | E   | 5U     |     | E                   | 1U     |     |     |
| Toluene                   | 5U     | J   | BE  | 5U               | J   | BE  | 5U     | J                   | BE  | 5U     | J   | BE                  | 1U     |     |     |
| Trichloroethene           | 8.8    |     | E   | 46               |     | E   | 110    |                     | E   | 110    |     | E                   | 29     |     |     |
| Chlorodibromomethane      | 5U     |     | E   | 5U               |     | E   | 5U     |                     | E   | 5U     |     | E                   | 1U     |     |     |
| 4-Chlorotoluene           | 5U     |     | E   | 5U               |     | E   | 5U     |                     | E   | 5U     |     | E                   | 1U     |     |     |
| Tetrachloroethene         | 540    |     | EF  | 45               |     | E   | 200    |                     | E   | 180    |     | E                   | 0.28L  | J   | A   |
| Freon 113                 | 5U     |     | E   | 5.9              | J   | DE  | 21     | J                   | DE  | 21     | J   | DE                  | 1U     |     |     |
| Ethylbenzene              | 5U     |     | E   | 5U               |     | E   | 5U     |                     | E   | 5U     |     | E                   | 1U     |     |     |
| Hexachlorobutadiene       | 5U     | J   | CE  | 5U               | J   | CE  | 5U     | J                   | CE  | 5U     | J   | CE                  | 1U     | J   | C   |
| Isopropylbenzene          | 5U     |     | E   | 5U               |     | E   | 5U     |                     | E   | 5U     |     | E                   | 1U     |     |     |
| p-Isopropyltoluene        | 5U     |     | E   | 5U               |     | E   | 5U     |                     | E   | 5U     |     | E                   | 1U     |     |     |
| Methylene Chloride        | 5U     |     | E   | 5U               |     | E   | 5U     |                     | E   | 5U     |     | E                   | 1U     |     |     |
| Naphthalene               | 5U     |     | E   | 5U               |     | E   | 5U     |                     | E   | 5U     |     | E                   | 1U     |     |     |
| n-Propylbenzene           | 5U     |     | E   | 5U               |     | E   | 5U     |                     | E   | 5U     |     | E                   | 1U     |     |     |
| Styrene                   | 5U     |     | E   | 5U               |     | E   | 5U     |                     | E   | 5U     |     | E                   | 1U     |     |     |
| 1,1,1,2-Tetrachloroethane | 5U     |     | E   | 5U               |     | E   | 5U     |                     | E   | 5U     |     | E                   | 1U     |     |     |
| 1,1,2,2-Tetrachloroethane | 5U     |     | E   | 5U               |     | E   | 5U     |                     | E   | 5U     |     | E                   | 1U     |     |     |
| 1,2,4-Trichlorobenzene    | 5U     |     | E   | 5U               |     | E   | 5U     |                     | E   | 5U     |     | E                   | 1U     |     |     |
| 1,2,3-Trichlorobenzene    | 5U     |     | E   | 5U               |     | E   | 5U     |                     | E   | 5U     |     | E                   | 1U     |     |     |
| 1,1,1-Trichloroethane     | 5U     |     | E   | 5U               |     | E   | 74     |                     | E   | 71     |     | E                   | 1U     |     |     |
| 1,1,2-Trichloroethane     | 5U     |     | E   | 5U               |     | E   | 5U     |                     | E   | 5U     |     | E                   | 1U     |     |     |
| Methyl t-Butyl Ether      | 5U     |     | E   | 5U               |     | E   | 2.1L   | J                   | ADE | 2.2L   | J   | ADE                 | 1U     |     |     |
| Dichlorofluoromethane     | NA     |     |     | NA               |     |     | NA     |                     |     | NA     |     |                     | NA     |     |     |

Val - Validity. Refer to Data Qualifiers in Table 1B.

Com - Comments. Refer to the Corresponding Section in the Narrative for each letter.

CRQL - Contract Required Quantitation Limit, N/A - Not Applicable, NA - Not Analyzed

D1, D2, etc. - Field Duplicate Pairs

FB - Field Blank, EB - Equipment Blank, TB - Trip Blank, BG - Background Sample





Case No. : 11-BCCO-15.0  
 Site : Omega Chem OU-2  
 Lab : EMAX  
 Reviewer : Denise McCaffrey, ESAT/LDC  
 Date : May 6, 2002

SDG No. : 01J260

## ANALYTICAL RESULTS

Tier 3 Table 1A

QUALIFIED DATA  
 Concentration in ug/L

Analysis Type : Water Samples for Volatiles by  
 EPA Method 8260B

| Station Description :           |        |     |     | Method Blank |     |     | Method Blank |     |     | CRQL   |     |     |        |     |     |        |     |     |        |     |     |
|---------------------------------|--------|-----|-----|--------------|-----|-----|--------------|-----|-----|--------|-----|-----|--------|-----|-----|--------|-----|-----|--------|-----|-----|
| Sample ID : GW401-PP072-2003 TB |        |     |     | MBLK1W       |     |     | MBLK2W       |     |     |        |     |     |        |     |     |        |     |     |        |     |     |
| Collection Date : 10/30/01      |        |     |     |              |     |     |              |     |     |        |     |     |        |     |     |        |     |     |        |     |     |
| Dilution Factor : 1             |        |     |     | 1            |     |     | 1            |     |     |        |     |     |        |     |     |        |     |     |        |     |     |
| Volatile Compound               | Result | Val | Com | Result       | Val | Com | Result       | Val | Com | Result | Val | Com | Result | Val | Com | Result | Val | Com | Result | Val | Com |
| Trichlorofluoromethane          | 1U     |     |     | 1U           |     |     | 1U           |     |     | 1      |     |     |        |     |     |        |     |     |        |     |     |
| Vinyl Chloride                  | 2U     |     |     | 2U           |     |     | 2U           |     |     | 2      |     |     |        |     |     |        |     |     |        |     |     |
| Acetone                         | 10U    | J   | C   | 10U          | J   | C   | 10U          |     |     | 10     |     |     |        |     |     |        |     |     |        |     |     |
| 2-Butanone                      | 10U    |     |     | 10U          |     |     | 10U          |     |     | 10     |     |     |        |     |     |        |     |     |        |     |     |
| Carbon Disulfide                | 1U     |     |     | 1U           |     |     | 1U           |     |     | 1      |     |     |        |     |     |        |     |     |        |     |     |
| Toluene                         | 1U     | J   | B   | 0.36L        | J   | A   | 0.33L        | J   | A   | 1      |     |     |        |     |     |        |     |     |        |     |     |
| Trichloroethene                 | 1U     |     |     | 1U           |     |     | 1U           |     |     | 1      |     |     |        |     |     |        |     |     |        |     |     |
| Chlorodibromomethane            | 1U     |     |     | 1U           |     |     | 1U           |     |     | 1      |     |     |        |     |     |        |     |     |        |     |     |
| 4-Chlorotoluene                 | 1U     |     |     | 1U           |     |     | 1U           |     |     | 1      |     |     |        |     |     |        |     |     |        |     |     |
| Tetrachloroethene               | 1U     |     |     | 1U           |     |     | 1U           |     |     | 1      |     |     |        |     |     |        |     |     |        |     |     |
| Freon 113                       | 1U     |     |     | 1U           |     |     | 1U           |     |     | 1      |     |     |        |     |     |        |     |     |        |     |     |
| Ethylbenzene                    | 1U     |     |     | 1U           |     |     | 1U           |     |     | 1      |     |     |        |     |     |        |     |     |        |     |     |
| Hexachlorobutadiene             | 1U     | J   | C   | 1U           | J   | C   | 1U           | J   | C   | 1      |     |     |        |     |     |        |     |     |        |     |     |
| Isopropylbenzene                | 1U     |     |     | 1U           |     |     | 1U           |     |     | 1      |     |     |        |     |     |        |     |     |        |     |     |
| p-Isopropyltoluene              | 1U     |     |     | 1U           |     |     | 1U           |     |     | 1      |     |     |        |     |     |        |     |     |        |     |     |
| Methylene Chloride              | 1U     |     |     | 1U           |     |     | 1U           |     |     | 1      |     |     |        |     |     |        |     |     |        |     |     |
| Naphthalene                     | 1U     |     |     | 1U           |     |     | 1U           |     |     | 1      |     |     |        |     |     |        |     |     |        |     |     |
| n-Propylbenzene                 | 1U     |     |     | 1U           |     |     | 1U           |     |     | 1      |     |     |        |     |     |        |     |     |        |     |     |
| Styrene                         | 1U     |     |     | 1U           |     |     | 1U           |     |     | 1      |     |     |        |     |     |        |     |     |        |     |     |
| 1,1,1,2-Tetrachloroethane       | 1U     |     |     | 1U           |     |     | 1U           |     |     | 1      |     |     |        |     |     |        |     |     |        |     |     |
| 1,1,2,2-Tetrachloroethane       | 1U     |     |     | 1U           |     |     | 1U           |     |     | 1      |     |     |        |     |     |        |     |     |        |     |     |
| 1,2,4-Trichlorobenzene          | 1U     |     |     | 1U           |     |     | 1U           |     |     | 1      |     |     |        |     |     |        |     |     |        |     |     |
| 1,2,3-Trichlorobenzene          | 1U     |     |     | 1U           |     |     | 1U           |     |     | 1      |     |     |        |     |     |        |     |     |        |     |     |
| 1,1,1-Trichloroethane           | 1U     |     |     | 1U           |     |     | 1U           |     |     | 1      |     |     |        |     |     |        |     |     |        |     |     |
| 1,1,2-Trichloroethane           | 1U     |     |     | 1U           |     |     | 1U           |     |     | 1      |     |     |        |     |     |        |     |     |        |     |     |
| Methyl t-Butyl Ether            | 1U     |     |     | 1U           |     |     | 1U           |     |     | 1      |     |     |        |     |     |        |     |     |        |     |     |
| Dichlorofluoromethane           | NA     |     |     | NA           |     |     | NA           |     |     | NA     |     |     |        |     |     |        |     |     |        |     |     |

Val - Validity. Refer to Data Qualifiers in Table 1B.

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**TABLE 1B**  
**DATA QUALIFIER DEFINITIONS FOR ORGANIC DATA REVIEW**

The definitions of the following qualifiers are prepared according to the document, "USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review," February 1994.

- |    |   |
|----|---|
| U  | The analyte was analyzed for but was not detected above the reported sample quantitation limit.   |
| L  | Indicates results which fall below the Contract Required Quantitation Limit. Results are estimated and are considered qualitatively acceptable but quantitatively unreliable due to uncertainties in the analytical precision near the limit of detection.                |
| J  | The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.  |
| NJ | The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.   |
| UJ | The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample. |
| R  | The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.  |